

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

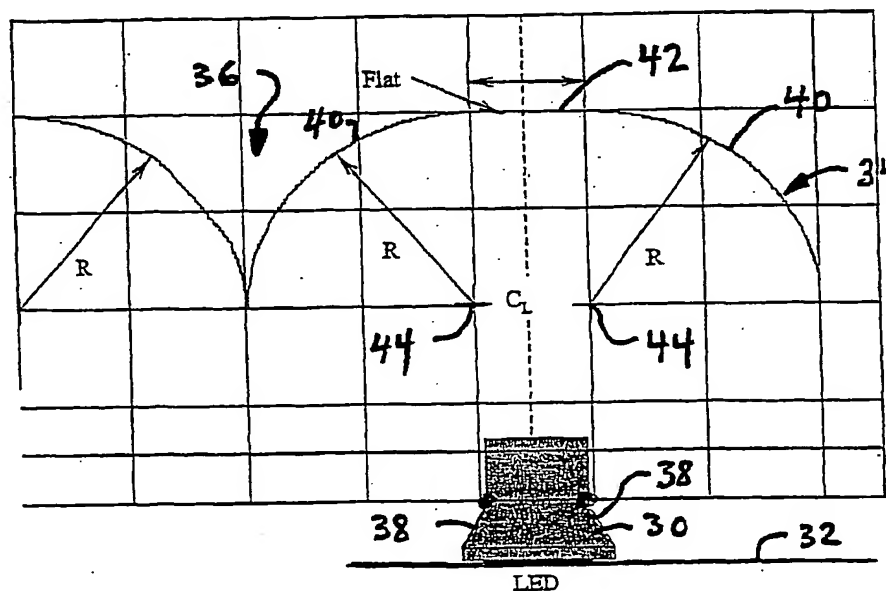
PCT

(10) International Publication Number
WO 2005/041632 A3

- (51) International Patent Classification?: F12V 5/00
- (21) International Application Number:
PCT/US2004/036260
- (22) International Filing Date: 28 October 2004 (28.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/516,382 31 October 2003 (31.10.2003) US
- (71) Applicant (for all designated States except US):
PHOSEON TECHNOLOGY, INC. [US/US]; 14974
N.W. Greenbrier Parkway, Beaverton, OR 97006 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ANDERSON,
Duwayne R. [US/US]; 34190 Hankey Road, Saint Helens,
OR 97051 (US). JASMIN, Roland, Jr. [US/US]; 5693
Victoria Court, Lake Oswego, OR 97035 (US).
- (74) Agents: WOLFE, James L. et al.; Ganz Law, P.C., P.O.
Box 2200, Hillsboro, OR 97123 (US).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.
- (84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
— with amended claims

[Continued on next page]

(54) Title: COLLECTION OPTICS FOR LED ARRAY WITH OFFSET HEMISPHERICAL OR FACETED SURFACES



(57) Abstract: An array of LEDs (30) is provided having a lens array (34) for collecting divergent light from each LED (30). Each lens (34) in the array is associated with a respective LED (30) and has a compound shape including a curved surface (40) that may be spherical or may have an offset aspherical shape. The curved surfaces (40) are centered about each side of its associated LED (30). The lens (34) may alternatively include faceted surfaces (46) that approximate the curved lens surface.

WO 2005/041632 A3



(88) Date of publication of the international search report:

4 August 2005

Date of publication of the amended claims: 27 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.